Supporting Information for "The role of the stratosphere in teleconnections arising from fast and slow MJO episodes"

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Fast case: 500hPa height anomalies day 0 to 8; Oct-Mar Climatology (contours)
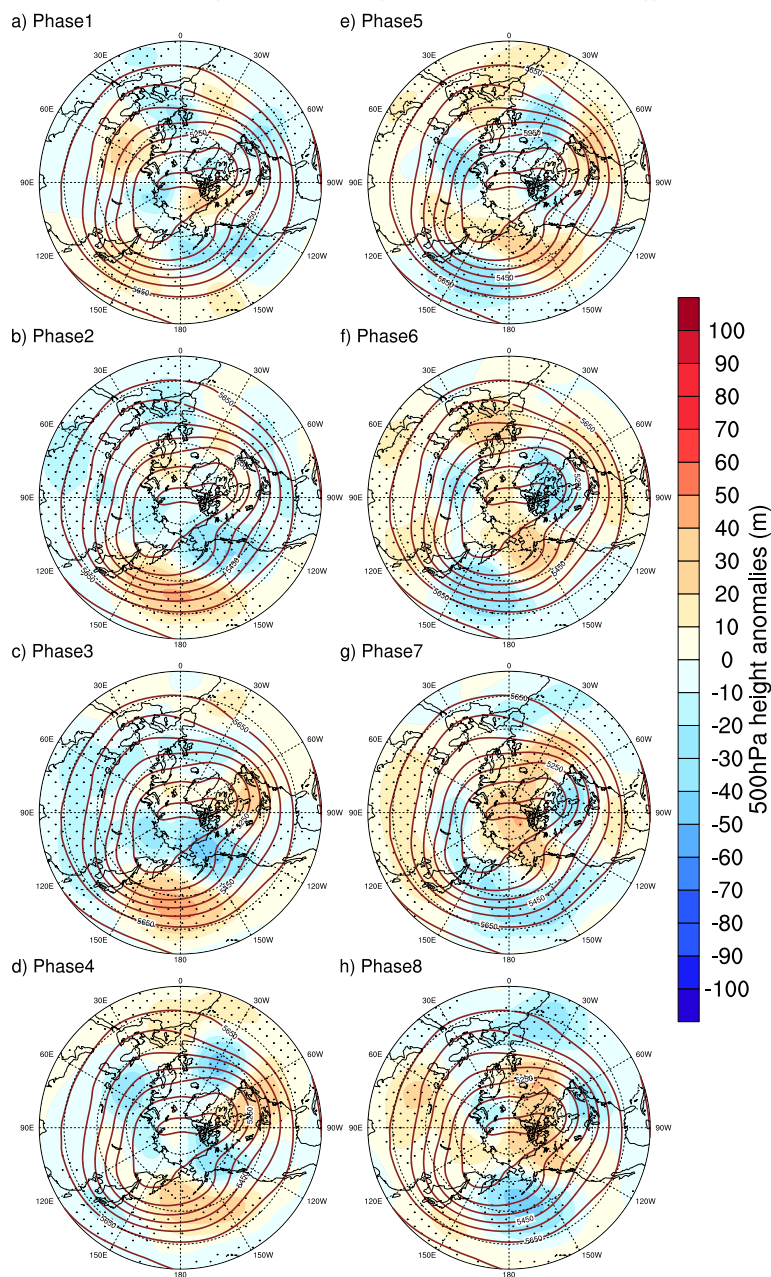

Figure S1. Composites of 500 hPa geopotential height anomalies (shaded) (units: m) averaged from day 0 to day 8 for eight MJO phases when amplitude exceeded 1.0 for fast cases. The maps are for north of 20°N. Brown contours represent the climatology of 500hPa geopotential height (October-March) with 100m intervals starting from 4850m. Dots represent days with confidence levels above 95% using bootstrap resampling.

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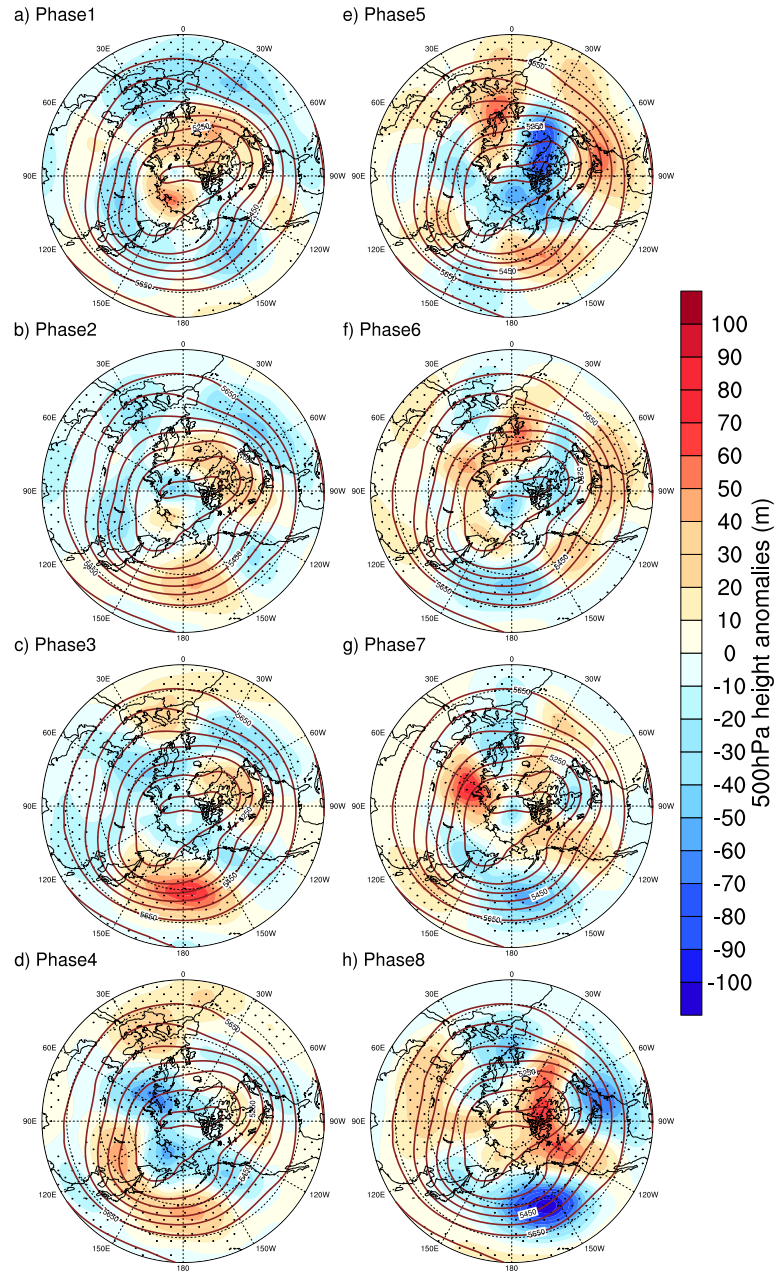Slow case: 500hPa height anomalies day 0 to 8; Oct-Mar Climatology (contours)

Figure S2. Same as Figure S1, but for slow MJO cases.

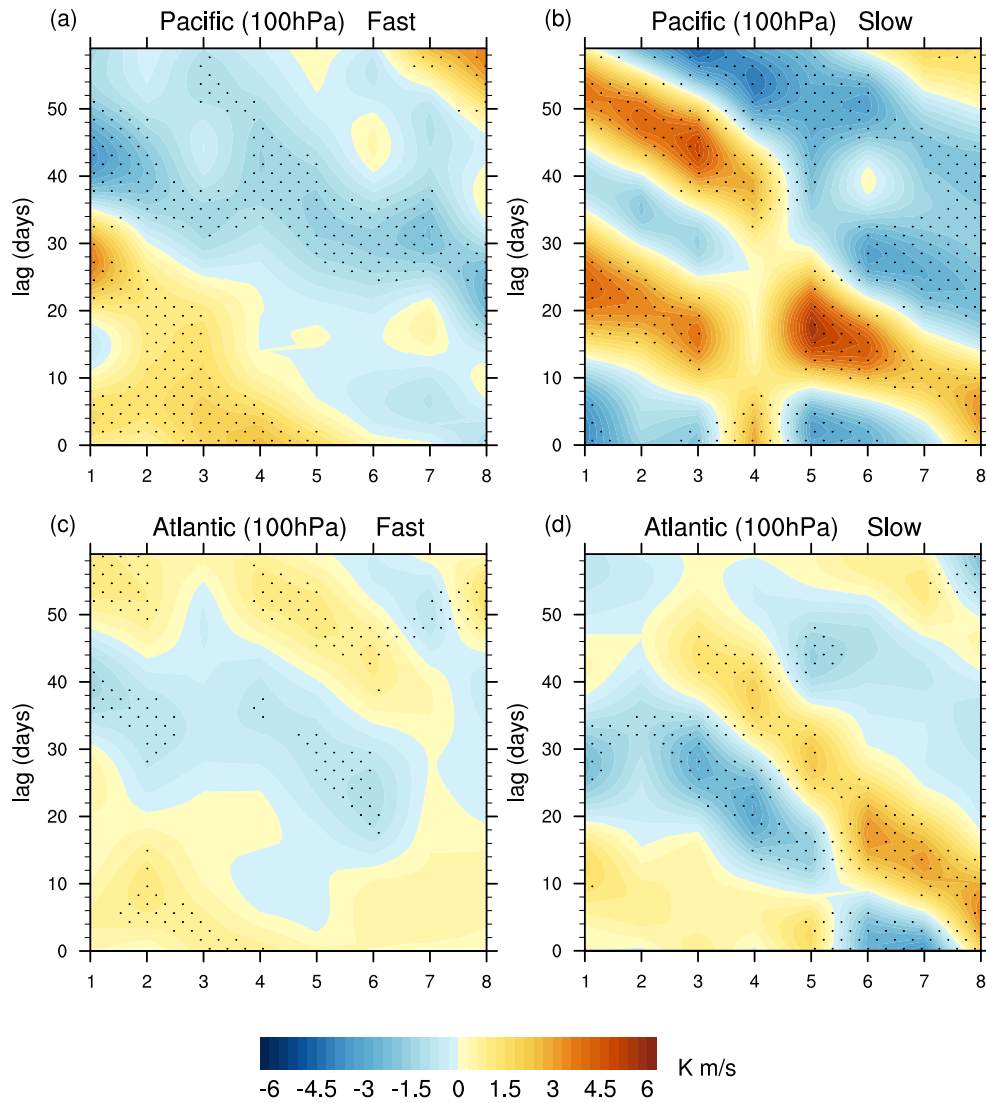December 20, 2023, 7:50pm

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Figure S3. Anomalous wave1 heat flux (units: K m/s) composites at 100hPa for the Pacific (a,b) (40-80°N, 140-220°E) and the Atlantic (c,d) (40-80°N, 300-340°E) sector. The x-axis is the MJO phase and the y-axis is lag in days with respect to each MJO phase. Dots represent days with confidence levels above 99% using bootstrap resampling.
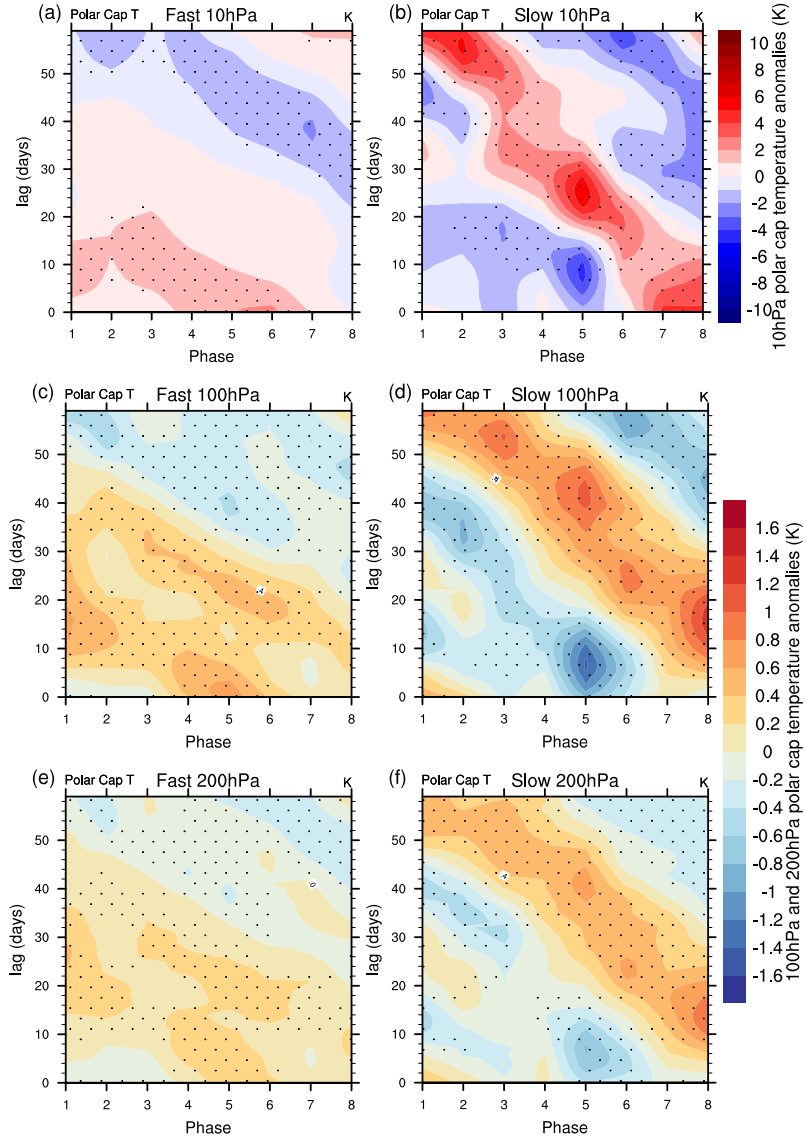
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Figure S4. Polar cap temperature anomalies (units: K) (area-weighted average of 65-90°N) for eight phases of fast and slow MJO cases at 10hPa, 100hPa, and 200hPa. The x-axis indicates the MJO phase, the y-axis indicates lag in days with respect to each MJO phase. Contour intervals are 1K for 10hPa, 0.2K for 100hPa and 200hPa. Dots represent days with confidence levels above 99% using bootstrap resampling.
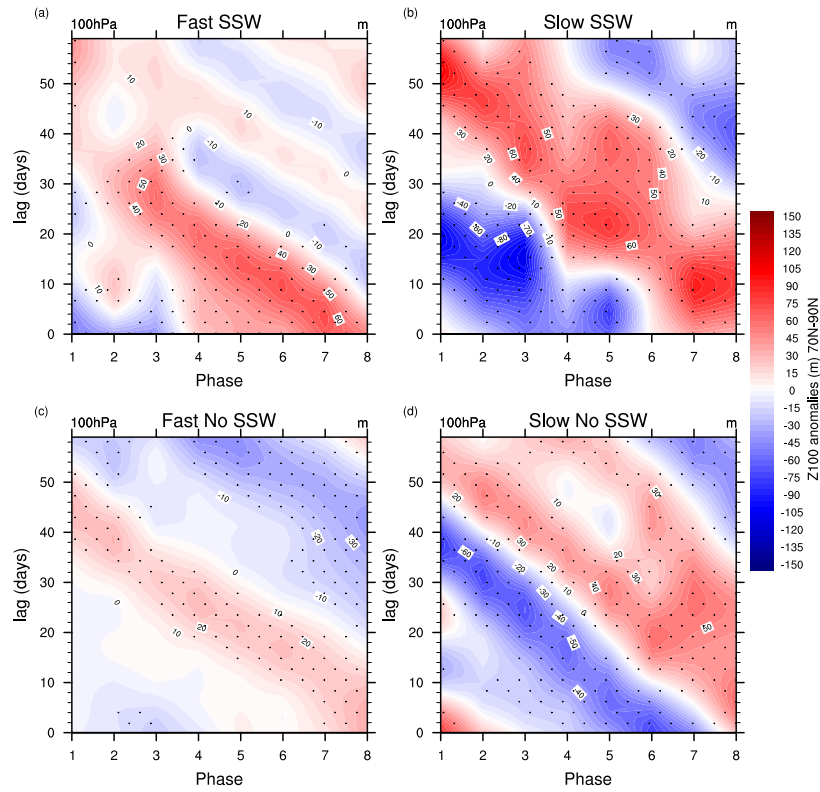
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Figure S5. Polar cap height anomaly composites (units: m) for 70-90°N (Z100) at 100hPa for fast and slow cases with SSW (a,b) and no SSW events (c,d). The x-axis indicates the MJO phase and the y-axis is the lag in days with respect to each MJO phase. Dots represent days with confidence levels above 95% using bootstrap resampling.